iISCE: Integrated InSAR Scientific Computing Environment on the Cloud

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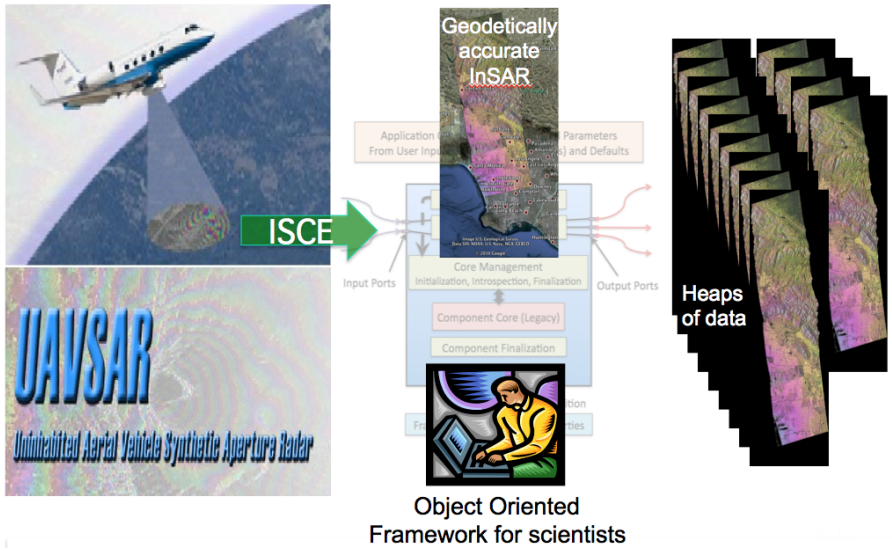
Objective

- Extend the ISCE software toolkit to support UAVSAR data formats and metadata
- Extend the ISCE framework to enable the seamless handling of extremely large data files
- Extend the ISCE framework with enhanced processing capabilities supporting UAVSAR scientists, including PolInSAR capabilities and 3D vector estimation
- Develop UAVSAR-specific data manipulation tools that enhance the utility of UAVSAR data for science users, including segmentation and decimation tools suited to precision interferometry



Approach

- Coordinate needs and requirements with UAVSAR project
- Develop an understanding of the processing model for UAVSAR and its commonality with the spaceborne SAR processing model in ISCE
- Develop readers to allow processed UAVSAR images to be read into the ISCE workflow
- Generalize the ISCE workflow for stack processing
- Develop writers to deliver high level ISCE output in UAVSAR project formats
- Implement 3D deformation tool in ISCE

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Key Milestones

• Ingest UAVSAR single look complex data into ISCE	11/13
• Develop UAVSAR segmentation and resampling tools	01/14
• Develop UAVSAR baseline re-estimation tool	04/14
• Develop UAVSAR PolInSAR module for ISCE	05/14
• Complete user documentation and orientation materials	08/14

$TRL_{in} = 5$ $TRL_{current} = 5$